

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>			1. CONTRACT ID CODE	PAGE 1 OF 4 PAGES
2. AMENDMENT/MODIFICATION NO. 0018	3. EFFECTIVE DATE 25 March 2004	4. REQUISITION/PURCHASE REQ. NO. W25PHS31710862	5. PROJECT NO. (If applicable)	
6. ISSUED BY  US Army Engineers, Philadelphia Wanamaker Building, 100 Penn Square East Contracts Branch, Room 643 Philadelphia, Pennsylvania 19107-3390	CODE	7. ADMINISTERED BY (If other than Item 6)  US Army Engineers, Philadelphia Wanamaker Building, 100 Penn Square East Philadelphia, Pennsylvania 19107-3390 Jennifer McGivern, Contracts Branch 215-656-6773	CODE	
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)			(√) 9A. AMENDMENT OF SOLICITATION NO. DACA61-03-R-0009	
			× 9B. DATED (SEE ITEM 11) 07 July 2003	
			10A. MODIFICATION OF CONTRACTS/ORDER NO.	
			10B. DATED (SEE ITEM 13)	
CODE	FACILITY CODE			

### 11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☒ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended, ☒ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

### 12. ACCOUNTING AND APPROPRIATION DATA (If required)

DESIGN/BUILD AIR FREIGHT TERMINAL FACILITY, DOVER AIR FORCE BASE, DELAWARE, STEP (PHASE) TWO

### 13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(√)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

**E. IMPORTANT:** Contractor ☐ is not, ☐ is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

### 14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

(CONTINUED ON NEXT PAGE)

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)		BY (Signature of Contracting Officer)	

14. DESCRIPTION OF AMENDMENT (continued)

- a. Section 00010 – Solicitation Offer and Award – Delete Section 00010 in its entirety and substitute revised Section 00010, annotated Amendment No. 0018 attached hereto.
- b. Section 00800- Special Contract Requirements – Delete Page 1 of Section 00800 in its entirety and substitute revised Page 1, annotated Amendment No. 0018 attached hereto.
- c. Section 00815 – Wage Rates – Delete Section 00815 in its entirety and substitute revised Section 00815, entitled “General Decision Number: DE030009 03/12/2004”, annotated Amendment No. 0018 attached hereto.

d. SPECIFICATIONS:

- 1) Step 2 Section 01010, Part I – Delete Section 01010, Part I in its entirety and substitute revised Section 01010, Part I, annotated Amendment No. 0018 attached hereto.
- 2) Step 2 Section 01010, Chapter D4 – Delete Section 01010, Chapter D4 in its entirety and substitute revised Section 01010, Chapter D4, annotated Amendment No. 0018 attached hereto.
- 3) Step 2 Section 01010, Chapter D71 – Delete Section 01010, Chapter D71 in its entirety and substitute revised Section 01010, Chapter D71, annotated Amendment No. 0018 attached hereto.
- 4) Appendix C – Delete Page 12 in its entirety and substitute revised Page 12, annotated Amendment No, 0018 attached hereto.
- 5) Make the following pen and ink changes to the following sections:
  - a) Section 01010, Chapter B1, Superstructure, Section A - Performance, paragraph 4d.1: Change “...Building Classification Category IV...” to “...Building Classification Category II...”.
  - b) Section 01010, Chapter B1, Superstructure, Section A - Performance, paragraph 4d.2: Change “...Building Classification Category IV...” to “...Building Classification Category II...”.
  - c) Section 01010, Chapter B1, Superstructure, Section A - Performance, paragraph 4d.4: Change “...seismic use group IIIE...” to “...seismic use group I...”.
  - d) Section 01010, Chapter B11, High Bays, Section A - Performance, paragraph 4d.1: Change “...Building Classification Category IV...” to “...Building Classification Category II...”.

- e) Section 01010, Chapter B11, High Bays, Section A - Performance, paragraph 4d.2: Change "...Building Classification Category IV..." to "...Building Classification Category II...".
- f) Section 01010, Chapter B11, High Bays, Section A - Performance, paragraph 4d.4: Change "...seismic use group IIIE..." to "...seismic use group I...".
- g) Section 01010, Chapter B13, Outside Covered Storage, Section A - Performance, paragraph 3d.1: Change "...Building Classification Category IV..." to "...Building Classification Category II...".
- h) Section 01010, Chapter B13, Outside Covered Storage, Section A - Performance, paragraph 3d.2: Change "...Building Classification Category IV..." to "...Building Classification Category II...".
- i) Section 01010, Chapter B13, Outside Covered Storage, Section A - Performance, paragraph 3d.4: Change "...seismic use group IIIE..." to "...seismic use group I...".
- j) Section 01010, Chapter B15, Roofs, Section A - Performance, paragraph 4d.1: Change "...Building Classification Category IV..." to "...Building Classification Category II...".
- k) Section 01010, Chapter B15, Roofs, Section A - Performance, paragraph 4d.2: Change "...Building Classification Category IV..." to "...Building Classification Category II...".
- l) Section 01010, Chapter B15, Roofs, Section A - Performance, paragraph 4d.4: Change "...seismic use group IIIE..." to "...seismic use group I...".
- m) Section 01010, Chapter B2, Exterior Enclosure, Section A - Performance, paragraph 4a.1: Add, " See Chapter B1 for additional information."
- n) Section 01010, Chapter B2, Exterior Enclosure, Section A - Performance, paragraph 4a.2: Add: "See Chapter B1 for additional information."
- o) Section 01010, Chapter B21, Exterior Walls, Section A - Performance, paragraph 4d.1: Add: " See Chapter B1 for additional information."
- p) Section 01010, Chapter B21, Exterior Walls, Section A - Performance, paragraph 4d.2: Add: " See Chapter B1 for additional information."
- q) Appendix C – ETV-PSE, Paragraph 3.3.1.2 SEISMIC LOADS: Delete "The ETV-PSE shall be designed to withstand seismic forces in

compliance with provisions of code, seismic use group IIIE, Site Seismicity: Minimum short period special acceleration (0.2 sec) of 0.20g. Minimum 1-second period special acceleration of 0.07g.” Add: “The ETV-PSE shall be designed to withstand seismic forces in compliance with provisions of TI 809-04 (latest edition), seismic use group I, Site Seismicity as indicated in Section 01010, Chapter B1.”

- r) Appendix C – ETV-PSE, Paragraph 3.3.1.3 WIND AND RAIN LOADS: Delete “The ETV-PSE shall be designed to withstand wind loads of 25 PSF. The ETV-PSE shall be designed to withstand rain and blowing rain.” Add: “The ETV-PSE shall be designed to building category and loads as presented in Section 01010, Chapter B1. The ETV-PSE shall be designed to withstand rain and blowing rain.”

e. Please indicate receipt of this amendment on Standard Form 1442 (SOLICITATION, OFFER, AND AWARD) as Amendment No. 0018. Failure to acknowledge all amendments may be cause for rejection of the proposal.

SECTION 00010 – SUPPLIES OR SERVICES AND PRICES

PRICE SCHEDULE

Item No.	Description	Qty	Unit Price	Amount
BASE				
BID				
0001	All costs in connection with design and design reviews related to the Air Freight Terminal and related design of demolition work, Dover AFB, DE, complete as shown on drawings and as specified except as noted below for items 0001A, 0001B and 0001C. This item includes the design of the common heating and cooling system for the Defense Courier Service, Freight Transfer Facility (FTF) and Cargo Development Facility (CDF).	N/A	LS	\$_____
0001A	All costs in connection with design and design reviews related to the MMHS in the main AFT building.	N/A	LS	\$_____
0001B	All costs in connection with the design and design reviews related to the MMHS in the Outsized Cargo Facility.	N/A	LS	\$_____
0001C	All costs in connection with the design and design reviews related to the Defense Courier Service (DCS) Facility except for shared facilities listed in bid item 0001.	N/A	LS	\$_____
0002	All costs in connection with construction of the Air Freight Terminal <b>(not including the new aircraft wash rack and the associated oil/water separator –lift station building – see bid items 0002C and 0002D)</b> , including utilities to points 5 feet outside of the building lines complete as shown on drawings and as specified, except for items 0002A, 0002B, 0003, 0003A, 0004, 0005, 0006, 0007, 0008, 0009, 0010, 0010A, 0010B, 0010C, 0011, 0012, 0013, 0014, 0015, 0016, and 0017.	N/A	LS	\$_____
0002A	All costs in connection with purchase and installation of dock levelers, as shown on drawing A1.01 (Appendix J).	24	\$_____	\$_____
0002B	All costs in connection with purchase and installation of truck levelers, as shown on drawing A1.01 (Appendix J).	2	\$_____	\$_____

Item No.	Description	Qty	Unit Price	Amount
0002C	All costs in connection with the construction of a new aircraft wash rack. Include utilities outside the 5 foot line under bid item 0003.	N/A	LS	\$_____
0002D	All costs in connection with the construction of a new oil/water separator and lift station and building to house both. Include utilities outside the 5 foot line under bid item 0003. Utilities include new HTHW line as an energy source for hot water used to wash aircraft.	N/A	LS	\$_____
0002E	All costs in connection with purchase and installation of an above ground water storage tank for fire flow. Include water lines from tank to new AFT under bid item 0003 and water lines to outsize cargo/FTF/DCS/CDF facilities under bid item 0013.	N/A	LS	\$_____
0003	All costs in connection with construction of all utilities beyond points 5 feet outside the building lines, except for communications (see Note below) (except that the underground conduit for communications is part of this bid item) and all site work (not including the new aircraft wash rack – see bid item 0002C) complete as shown on drawings and as specified, except for items 0004, 0005, 0006, 0007, 0008, 0009, 0009A, 0009B, 0010, 0011, 0011A, 0011B, 0012, 0013, 0014, 0015, 0016, and 0017.	N/A	LS	\$_____
0003A	All costs in connection with purchase and installation of truck levelers for concrete rolling stock loading ramp, as shown n drawing A1.03 (Appendix J).	2	\$_____	\$_____
0004	All costs in connection with purchase, haul and placement of satisfactory structural fill for the main Air Freight Terminal building which includes fill for bid items 0002, 0002B, 0003, 0003A, and 0006.	N/A	LS	\$_____
0005	All costs in connection with removal and disposal of structurally unsatisfactory excavated soil which also includes unsatisfactory soil from bid items 0002, 0002B, 0003, 0003A, and 0006.	N/A	LS	\$_____
0006	Installation of emergency generator.	N/A	LS	\$_____
0007	Demolition of existing buildings and facilities outlined below, except for Item 0008.			

Item No.	Description	Qty	Unit Price	Amount
0007A	Demolition of existing Building 504	N/A	LS	\$_____
0007B	Demolition of existing Building 505, Bay 0 and northern section of the Pallet Storage and Racking System and east covered Staging Area	N/A	LS	\$_____
0007C	Demolition of existing Building 510	N/A	LS	\$_____
0007D	Demolition of existing Building 581	N/A	LS	\$_____
0007E	Demolition of existing Building 582	N/A	LS	\$_____
0007F	Demolition of existing Building 583	N/A	LS	\$_____
0007G	Demolition of existing Building 585	N/A	LS	\$_____
0007H	Demolition of existing Facility 66223	N/A	LS	\$_____
0007I	Demolition of existing Facility 67585	N/A	LS	\$_____
0007J	Demolition of existing Facility 506	N/A	LS	\$_____
0007K	Demolition of existing Facility 521, to include in ground truck scale	N/A	LS	\$_____
0008	Asbestos Abatement			
0008A	Building 504	N/A	LS	\$_____
0008B	Building 510	N/A	LS	\$_____
0008C	Building 582	N/A	N/A	\$_____
0008D	Building 583	N/A	LS	\$_____
0009	All costs in connection with purchase and installation of 2 automated elevated transfer vehicles (ETVs), the ETV storage enclosure, and the storage conveyors, Item no. <b>0009</b> includes the roofs, stairs, exterior shells, and the overhead doors for the ETV enclosure. The foundation costs for the following: ETV storage enclosure, ETV			

Item No.	Description	Qty	Unit Price	Amount
0009A	storage racks and rail shall be included in bid item 0002. All costs in connection with purchase and installation of the staging dock conveyors. The costs for the canopies and foundations associated with the staging dock conveyors shall be included in bid item 0002.	N/A	LS	\$_____
0009B	All costs in connection with purchase and installation of the lifts, the lift conveyors, the lift transfer conveyors, the ALOC/Code J conveyors, the ball transfer conveyor system, and the sortation conveyor system. The costs for the lift pits, and the canopy and foundations associated with the ALOC/Code J conveyors shall be included in bid item 0002.	N/A	LS	\$_____
0010	Demolition of Building 505, Bays 1, 2, 3, 4, 5, associated covered storage areas adjacent to bays on the flight line side of the building, exterior overhead crane to include supporting structure, exterior loading ramp, and the Administrative Area on the truck side of the building.	N/A	LS	\$_____
0011	Asbestos Abatement, Building 505 Admin Area	N/A	LS	\$_____
0011A	Asbestos Abatement, Building 505, Bays 1, 4, and 5	N/A	LS	\$_____
<b>TOTAL BASE BID AMOUNT</b>				<b>\$_____</b>

#### OPTIONS

##### OPTION

#1

00012	All costs in connection with construction of the Outsized Cargo Facility, including the FTF and CDF, common HVAC plant/mechanical room for the FTF, CDF, and DCS; and associated utilities to points 5 feet outside the building lines complete as shown on the drawings and as specified, except for new fill – see item 0014, and disposal of unsatisfactory soil – see item 0015, and except for items 0012A, 0013, 0016, and 0017.	N/A	LS	\$_____
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Item No.	Description	Qty	Unit Price	Amount
0012A	All costs in connection with purchase and installation of truck levelers, as shown on drawing A1.03 (Appendix J).	2	\$_____	\$_____
0013	All costs in connection with construction of all utilities, associated with the Outsized Cargo Facilities, beyond points 5 feet outside the building lines, except for communications (see Note below) and all site work complete as shown on drawings and as specified and except for new fill – see item 0014, and disposal of unsatisfactory soil – see item 0015.	N/A	LS	\$_____
0014	All costs in connection with purchase, haul, and placement of satisfactory structural fill for the outsized cargo facility, FTF, DCS, and CDF which includes fill for bid items 0012, 0012A, 0013, and 0016.	N/A	LS	\$_____
0015	All costs in connection with removal and disposal of structurally unsatisfactory excavated soil for the outsized cargo facility, FTF, DCS, and CDF which includes unsatisfactory fill for bid items 0012, 0012A, 0013, and 0016.	N/A	LS	\$_____
TOTAL FOR OPTION #1				
OPTION #2				
0016	All costs, except as noted in items 0012, 0014, and 0015 for the construction of the DCS, and associated utilities to points 5 feet outside the building lines complete as shown on the drawings and as specified.	N/A	LS	\$_____
0017	All costs in connection with purchase and installation of the multi-pallet ETV (MPETV), the multi-pallet storage conveyors, the multi-pallet build-up conveyors, motorized pallet conveyor from FTF and DCS, and the 2 overhead bridge cranes. The costs for the supporting structure for the bridge cranes, the overhead canopy, and the dock/foundation for the oversized cargo area, including the MPETV storage racks and rails, shall be included under bid item 0012.	N/A	LS	\$_____
TOTAL FOR OPTION #2				

Item No.	Description	Qty	Unit Price	Amount
<b>OPTION #3</b>				
0018	Emergency Generator, less installation.	N/A	LS	\$_____
<b>OPTION #4</b>				
0019	Gas fired boiler at the new aircraft wash rack to heat wash water .	N/A	LS	\$_____
0019A	Expansion of new oil/water separator-lift station building to accommodate the gas fired boiler.	N/A	LS	\$_____
0019B	Credit to Government for deletion of new HTHW to hot water heat exchanger in the oil/water separator-lift station building.	N/A	LS	MINUS \$_____
0019C	New gas line to gas fired boiler in the new oil/water separator-lift station building at the new aircraft wash rack.	N/A	LS	\$_____
0019D	Credit to Government for deletion of new HTHW line to the oil/water separator-lift station building at the new aircraft wash rack.	N/A	LS	MINUS \$_____
<b>TOTAL FOR OPTION #4</b>				<b>\$_____</b>

**NOTES:**

Government will provide communications lines from nearest tie-in to the building. Communications lines will be in AFT contractor furnished buried conduits.

For the DCS, this RFP includes a complete design for a separate structure. The contractor's designer shall use this as a basis for re-design of the DCS as part of a combined structure: Outsized Cargo Facility, FTF, DCS, and Cargo Development Facility (CDF). However, due to the secure nature of the FTF and DCS functions these two facilities will not share toilet and break room facilities, nor with the Outsized Cargo Facility and the Cargo Development Facility (CDF). However, a common heating and cooling system shall serve the DCS, FTF and CDF.

The Army will procure this facility through a selection process in accordance with the provisions set forth in this Request for Proposal (RFP). When a contract is awarded, it will be a "Firm Fixed Price Contract."

The Congress, in authorizing and funding this contract, has established certain cost limitations for the project. The current estimated limit for the complete design and construction of this project, less the automated and mechanized material handling systems, is \$50,000,000. Total includes applicable Option No. 2 bid items And Option No. 3.. The current estimated limit for the automated and mechanized material handlings

systems (total for Items 0009, 0009A, 0009B and 0017) is \$20,000,000. There are no expectations of additional funding. Proposals that exceed this funding limit after evaluating the options may be rejected. Submission of desirable alternative features exceeding the minimum requirements may be considered as long as award can be made with the established funds.

For the DCS, the total cost limit for the design and construction is \$1,320,000.

Any proposal that is materially unbalanced as to prices may be rejected. An unbalanced proposal is one which is based on prices significantly less than the cost for some work and prices which are significantly overstated for other work and can also exist where only overpricing or under pricing exists. A proposal may be rejected if the Contracting Officer determines that the lack of balance poses an unacceptable risk to the Government.

Failure to insert prices for each item, to include bid options in the bid schedule may cause the proposal to be rejected.

**SECTION 00800****SPECIAL CONTRACT REQUIREMENTS.****SCR-1 52.211-10 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (Apr 1984)**

(a) The Contractor shall be required to (1) commence work under this contract within 10 calendar days after the date the Contractor receives the notice to proceed, (2) prosecute the work diligently, and (3) design and construct the entire work. The times stated for completion shall include final cleanup of the premises. The Contracting Officer has the right to exercise Options Number 1 Number 3 within 120 calendar days after the Contractor receives the Notice to Proceed for the Base Bid and to exercise Option Number 2 within **270** calendar days after the Contractor receives the Notice to Proceed for the Base Bid. These options do not extend the period of performance of the contract. Option work shall be completed concurrently with the Base Bid work. The time stated for completion shall include final cleanup of the site.

Sequence of Work:

1. Prepare design and construction documents for the project.
2. Construct new Aircraft Wash Rack and Oil/Water Separator/Lift Station between existing Buildings 706 and 711. relocate Facility Number 507 (Fuel tank, VIL, key pump, and computer line) directly south of Facility Number 509. Once these facilities are completed, demolish existing facilities 66223 and 583.
3. Demolish existing Buildings 504, 506, 510, 581, 582, 585, Facility 67585.
4. Demolish Bay 0, northern section of the Pallet Storage and Racking System and east covered Staging Area of existing Building 505 to provide a cleared site for construction of the new AFT (Air Freight Terminal).
5. Construct new main AFT Building (North Administration Building to ALOC/Code "J" Dock) along with associated paving and utilities to have an operational building. Include the relevant Mechanical Material Handling System (MMHS) which is in Option Number 1, as outlined on the Price Schedule in Section 00010.
6. Allow the Government 21 days to vacate the remaining portion of existing Building 505, except Bays 4 and 5, and occupy the new main AFT Building.
7. Demolish the Bays 1, 2 and 3, Administration structure, Pallet Storage and Racking System structure, and covered loading docks of existing Building 505, to construct the new Outsized Cargo Facility. This would allow the facility to have continued access to a 35 ton bridge crane. When Bays 1, 2, and 3 are demolished, ensure sufficient electrical power is left to sustain operations in Bays 4 and 5 to include the cranes, MPETV, finger docks, roller system, and any other system components. Remove and process sprung structure in accordance with Section 01000.
8. Construct the new Outsized Cargo Facility, and attached Defense Courier Service, Freight Transfer and Cargo Deployment Facilities, along with associated paving and utilities to have an operational building. Include the relevant MMHS, which is part of Option Number 2, as outlined in the Price Schedule in Section 00010.
9. Allow the Government 21 days to vacate Bays 4 and 5 of Building 505 and occupy the new Outsized Cargo Facility, and the Defense Courier Service, Freight Transfer and Cargo Deployment Facilities.
10. Demolish the remainder of Building 505.
11. Complete the installation of the utilities and pave the remainder of the site.

Duration of Construction: 36 months

- (b) Liquidated damages for failure to complete the work within the two time periods specified above is addressed in paragraph SCR-15 of Section 00800, "Special Contract Requirements."

**General Decision Number: DE030009 03/12/2004**General Decision Number: **DE030009** 03/12/2004

Superseded General Decision Number: DE020009

State: **Delaware**

Construction Type: Building

County: Kent County in **Delaware**.

BUILDING CONSTRUCTION PROJECTS (does not include residential construction consisting of single family homes and apartments up to and including 4 stories)

Modification Number      Publication Date

0	06/13/2003
1	10/31/2003
2	11/21/2003
3	02/06/2004
4	02/20/2004
5	03/12/2004

\* BRDE0001-003 05/01/2003

	Rates	Fringes
Bricklayer (Including Caulking).....	\$ 22.75	9.88

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CARP0626-001 05/01/2003

	Rates	Fringes
Carpenter (Including Drywall Hanging, Acoustical Ceilings, Formsetting and Scaffold Building).....	\$ 27.37	10.27
Soft Floor Layer.....	\$ 27.37	10.27

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CARP1545-001 11/01/2003

	Rates	Fringes
Millwright.....	\$ 29.41	16.79

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ELEC0313-001 12/01/2002

	Rates	Fringes
Electrician.....	\$ 29.54	13.72

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ENGI0542-018 05/01/2003

	Rates	Fringes
Power equipment operators:		
Backhoes.....	\$ 23.35	13.21+A
Bulldozers.....	\$ 23.35	13.21+A
Conveyor Loaders (Euclid-Type Wheel).....	\$ 23.35	13.21+A
Forklifts.....	\$ 23.35	13.21+A
Front-End Loaders.....	\$ 23.35	13.21+A
High Rail/Burro Crane.....	\$ 23.69	13.32+A
Rail Loader (Winch Boom Type).....	\$ 23.69	13.32+A
Rail/Road Loaders.....	\$ 23.35	13.21+A
Tower Type Crane		

Operation, Erecting,  
Dismantling, Jumping or  
Jacking.....\$ 23.35 13.21+A  
FOOTNOTE: A. PAID HOLIDAYS: New Year's Day, Memorial Day;  
Independence Day; Labor Day; Thanksgiving Day; Christmas Day;  
and Election Day (provided the employee works the scheduled  
work day following the holiday.)

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IRON0451-001 07/01/2003

	Rates	Fringes
Ironworker		
Structural and		
Reinforcing.....	\$ 26.10	15.55

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PAIN0021-017 05/01/2002

	Rates	Fringes
Glazier.....	\$ 26.80	13.75

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PAIN0021-020 05/01/2002

	Rates	Fringes
Drywall Finisher.....	\$ 21.93	8.08
Painter, Brush and Roller.....	\$ 21.43	8.08

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SFDE0669-001 04/01/2001

	Rates	Fringes
Sprinkler Fitter.....	\$ 26.45	8.00

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SHEE0019-003 07/01/2002

	Rates	Fringes
Sheet metal worker.....	\$ 26.30	17.94+A

FOOTNOTE A: PAID HOLIDAY: Election Day.

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SUDE2002-005 07/30/2002

	Rates	Fringes
Cement Mason/Finisher.....	\$ 21.00	1.22
Laborer, Unskilled.....	\$ 13.61	
Plumber/Pipefitter		
(including HVAC Pipe Work).....	\$ 29.72	6.67

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WELDERS - Receive rate prescribed for craft performing  
operation to which welding is incidental.

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Unlisted classifications needed for work not included within  
the scope of the classifications listed may be added after  
award only as provided in the labor standards contract clauses  
(29CFR 5.5 (a) (1) (ii)).

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In the listing above, the "SU" designation means that rates  
listed under the identifier do not reflect collectively  
bargained wage and fringe benefit rates. Other designations  
indicate unions whose rates have been determined to be  
prevailing.

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WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can

be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

**PROGRAM SUMMARY****A. Background:**

1. The U.S. Army Corps of Engineers, Philadelphia District (CENAP) has been requested by the Air Mobility Command (AMC), U.S. Air Force to procure a design-build contract and perform design and construction oversight for a new Air Freight Terminal (AFT) at Dover AFB. The existing AFT was severely damaged due to heavy snow in February 2003, is old (circa 1950), and cannot be economically upgraded to meet the current and future needs of the Air Mobility Command (AMC). The existing facility must remain in operation during the construction of the new AFT; therefore, the design shall address a sequence of construction approach to provide efficient operation of the facility from minimal activity to peak activity. Most utilities enter the existing Air Freight Terminal under or near Bay 0, which is the first Bay to be demolished. Prior to demolition of Bay 0 the contractor shall provide for temporary utility service, from contractor selected and Government approved tie in points to the existing Base utility lines or via contractor furnished temporary utility services, to the remainder of the existing Air Freight Terminal until vacated by the Air Force at the time that the new Air Freight Terminal is complete. Initial sequence of work shall include the administration areas, import/export bays, hazardous materials storage, ALOC/Code "J" dock, supporting Mechanized Material Handling System (MMHS) and utilities, demolition of existing buildings indicated on site plans and demolition of Bay O of the existing AFT (Building 505) along with the associated covered loading docks on the flight line side. Once the above work is complete and the Air Force moves operations out of the existing AFT (into the new AFT and selected temporary facilities), demolition of remainder of existing AFT and complete construction of new AFT, which includes the outsized cargo, freight transfer, defense courier service, and cargo deployment facilities shall be performed. A design-build approach via unrestricted advertisement was selected in terms of completing design and construction.

**B. Basic Function:**

1. This project includes the design and construction of a new 371,490 SF Air Freight Terminal (AFT) at Dover Air Force Base (AFB) which consists of the following. The above square footage includes the options outlined in paragraphs B.3 and B.4, below.
  - a. Cargo processing bays, including refrigerated storage area and packing and crating area.
  - b. Operations center and administrative space.
  - c. Covered storage.

- d. Special Handling Area for hazardous materials storage.
  - e. Truck parking areas and traffic lanes (partly on existing pavement).
  - f. K loader traffic lanes and marshalling yard (partly on existing pavement).
  - g. Structure shall be steel frame with reinforced concrete foundation, concrete floor slab (portions at grade and portions elevated for tractor-trailers), masonry and metal siding exterior walls, finishes and sloped standing seam metal roof.
  - h. Truck dock equipment (truck and dock levelers).
  - i. Privately Owned Vehicle (POV) parking areas, driveways, pedestrian access to facilities, AT/FT barriers (curb and post tension cables for security), truck guard house/check-in area, deceleration lane, etc. See Concept Site Plan for more information.
2. Project also includes:
- a. Demolition of Outdoor Aircraft Wash Rack (Facility #66223). Construction of a new facility between Buildings 706 and 711 using "as built" of the original facility. **Option #4 – In lieu of a new HTHW line and heat exchanger and associated equipment and piping required as part of the base bid (see paragraph b, below), provide a natural gas fired boiler package for the was rack system. Water output temperature shall be 140 degrees F and pressure shall be 80-85 psi. Flow rate shall be 4800 gph. Package shall include boiler(s), storage tanks, recirculating pumps, redundant pressure booster pumps, and all associated appurtenances. Include an addition to the new oil/water separator-lift station building (see paragraph b, below) to house this equipment. See also Section 00010, Option #4.**
  - b. Demolition of the existing Oil/water Separator and Lift Station (1,430 sf) (Facility #583). Construction of a new facility at a new site North of Hangar 706. New facility shall have same capacity as #583, but shall be designed and constructed to meet all codes.
  - c. Demolition of the existing Marshalling Yard Facility (1,216 sf) (Facility #581). This function shall be incorporated into the new AFT. This function in the new AFT is renamed as Cargo Development Facility.
  - d. Demolition of the existing Mobility Processing Facility (40,855 sf) (Facility #582), including the modular buildings housed inside the facility.

- e. Demolition of the existing C-5 Parts Store (7,289 sf) (Facility #585)  
Building's function to be re-located to Building Number 515 by others.
  - f. Demolition of the existing Ramp Services Office (1,830 sf) (Facility #506).  
This function shall be incorporated into new AFT.
  - g. Demolition of the existing Fire Station (15,645 sf ) (Facility #510).
  - h. Demolition of the existing vacant Storage Facility (436 sf) (Facility #504).
  - i. Demolition of the existing pavilion (Facility #67585). Construction of a new facility at a new site, similar in design to the existing pavilion, shall be performed by others.
  - j. Demolition of the existing Air Freight Terminal (398,317 sf) (Facility #505). This facility shall be demolished in phases as outlined in Part I, paragraph A.1 of this Section 01010. The demolition also includes the existing ETVs and racking and conveying systems, modular trailer buildings, and the existing 10 ton and 35 ton bridge cranes. Demolition of Bays 1-5 shall be an option. See paragraphs B.4, below.
  - k. Relocation of existing utilities, to remain, as needed. Specifically there is a 24 inch storm sewer line under the site of the new AFT. This line shall be relocated as necessary so as not to pass under the new AFT. Base policy is that utilities do not run under buildings
3. The furnish and installation of the Mechanized Material Handling System (MMHS), also referred to as the Air Cargo Handling System, are options to the Contract. Refer to the Price Schedule in Section 00010.
- a) Two (2) manless elevating transfer vehicles (ETV),
  - b) Four (4) level pallet storage system, including the exterior enclosure.
  - c) Multi-pallet ETV with two (2) level multi-pallet train storage system,
  - d) Staging dock conveyers,
  - e) Pallet lifts with scales.
  - f) Powered and gravity roller conveyor systems,
  - g) One (1) 35 ton bridge crane, and one (1) 10 ton crane, and
  - h) Small package conveyor line.

4. The construction of the Outsized Cargo Facility, along with Cargo Deployment, Freight Transfer and Defense Courier Service (DCS) Facilities is an option(s) to the contract. Refer to Price Schedules in Section 00010.
  - a. DCS design drawings and scope are located in Appendices K and M, respectively. The documents in these appendices were prepared for a stand-alone building. The DCS facility shall be consolidated as one structure with the Outsized Cargo, Cargo Deployment and Freight Transfer Facilities, as shown on Drawing A1.03 in Appendix J of this RFP.

## C. SPACES

1. Interior Spaces: The project includes spaces of the following types:
  - a. Cargo Processing
  - b. Sensitive Compartmented Information Facilities (SCIF): Two separate SCIFs are used to build pallets, one in the Freight Transfer Facility (FTF) and one in the Defense Courier Service Facility (DCS). In addition, the FTF requires an administrative SCIF where classified communications equipment is operated. The DCS SCIF design criteria is attached as Appendix M of this RFP, along with reference drawings for a stand-alone DCS facility in Appendix K. FTF SCIF design criteria is specified in Section 01010 – Chapter C-17A. There is also SCIF Room in the Special Handling Area. This criteria is specified in Section 01010 – Chapter C17B.
  - c. Hazardous materials storage area.
  - d. Air Terminal Operations and Administrative space
  - e. Occupant Services: Spaces for toilets, eating, and resting (lounges).
  - f. Storage: Rooms devoted to storage, including closets, and storage rooms.
  - g. Circulation: Spaces functioning as corridors, stairs, and ramps.
  - h. Building Services: Spaces for service sinks, and maintenance equipment.
  - i. Utility Equipment: Spaces for mechanical equipment, electrical equipment, communications equipment (shall have separate HVAC controls to allow for heating and cooling year round), elevator equipment, and centralized heating, ventilating, air-conditioning and exhaust equipment and controls and space for heating and cooling.

2. Exterior Spaces:

- a. Covered Storage Area
- b. Outdoor Building Services: Spaces for trash collection, trash removal, maintenance equipment storage, and delivery and loading.
- c. Outdoor Utility Equipment: Dedicated spaces for outdoor elements of water and drainage, heating and cooling, fire protection, electrical power, and telecommunications services.
- d. Automotive: Spaces for access roads and truck parking.

D. PROGRAM

- 1. Project Program: The project program is described in Section 01010 Part II. Refer to supplemental design drawings in appendix J. The drawings are intended to serve as a partial guideline to convey the design intent for some functional relationships.

E. EXISTING CONDITIONS

- 1. The project site is currently partly vacant with some buildings and other structures to include a portion of the existing AFT.
  - a. Existing structures are to be completely removed.
  - b. See the Program Summary, above for description of replacement structures required.
  - c. Required demolition: see Program Summary, above
  - d. See Chapter G for removal of site structures and other features.
  - e. Structures or features to be preserved include some vehicle parking/storage paved areas.
  - f. Portions of the new AFT site are located over abandoned concrete with asphalt surface abandoned taxiways and runway. These pavements will be removed where necessary as part of the new AFT construction.

END OF PART I

## CHAPTER D4

## FIRE PROTECTION

## PERFORMANCE

## A. Basic Function:

1. Provide services systems to protect life and property, the facility and the building.
2. Fire protection comprises the following elements:
  - a. Fire Sprinkler and Extinguishing Systems D41: Elements which automatically extinguish fires.
  - b. Standpipe and Hose Systems D42: Elements that deliver adequate supplies of water to locations in the building for manual fire-fighting.
  - c. Fire Detection and Alarm D43: Elements required to detect fires and communicate fire location to building occupants, building management, and public fire fighting agencies.
  - d. Fire Protection Specialties D45: Elements required for manual fire-fighting by occupants.
3. Provide automatic fire suppression for the entire building.
  - a. All fire suppression coverages shall be in accordance with Unified Facilities Criteria UFC-3-600-01 and Unified Facilities Guide Specifications UFGS.
  - b. Provide multi-zone wet pipe sprinkler and standpipe system throughout all enclosed heated areas.
  - c. Provide multi-zone dry pipe sprinkler and standpipe system throughout all multi-pallet storage areas.
  - d. Provide independent multi-zone deluge system on both sides of all overhead doors and handling conveyor systems penetrating through fire-rated walls and enclosures. Activation of deluge system shall automatically close the overhead doors and shutdown the handling conveyor system.
  - e. Provide a separate zone wet sprinkler system for elevator shaft and machine rooms.
  - f. All multiple special flammable storage and security bays fire protection shall be independently zoned.
  - g. ***Provide an NFPA Fire Water Storage Tank System to compensate the main water distribution flow deficiency to the fire pumps. System shall include an above ground storage tank, booster pumps , and all associated appurtenances. See hydrant flow test – available flow is 1500gpm. Estimated demand is 1900gpm.***
4. Water Use:
  - a. Provide a permanent dedicated multi water supply for standpipes as required by code.
  - b. Provide a dedicated multi water supply to sprinkler systems that is sufficient to extinguish fires inside the structure.
  - c. Perform a fire protection design analysis in accordance with UFC-3-600-01, 2003.
  - d. Provide a flow test to determine the static pressure and the residual pressure at a flow rate equal to or greater than the combined sprinkler and hose stream demand.
5. Provide the services of a qualified fire protection engineer who shall be an integral part of the design team and be involved in all aspects of the design as it relates to fire protection, in accordance with UFC-3-600-01, 2003.
6. Where fire protection elements also must function as elements defined within another element group, the construction will meet the requirements of both element groups.
7. In addition to the requirements of this chapter, comply with all applicable requirements of Part III - Facility Performance and Chapter D - Services.
8. Provide looped water supply system all around new facility. To facilitate installation of fire hydrants and supply to the buildings.

## B. Amenity and Comfort:

1. Leakage: Provide systems that are leak-free.
  2. Accessibility: Provide clearances around system components for service and use.
  3. Sound: Provide audible alarm system to signal building occupants of fire hazard.
  4. Convenience: Provide an automatic system to signal building occupants of fire, fight the fire, signal the fire station that a fire has started, and operate the smoke control system.
  5. Hazards: Provide systems which minimize risk of injury and damage to property.
  6. Substantiation:
    - a. Preliminary Design: Fire protection areas and systems identified.
    - b. Design Development: Fire protection zones indicated on the Appendix, Space Requirement Summary identified.
    - c. Construction: Functional performance testing in accordance with code.
- C. Health and Safety:
1. Path of Egress: Provide systems which safeguard path of egress.
  2. Fire Source: Provide system materials which do not contribute to the spread of the fire and which do not burn or release smoke when in direct contact with the fire.
  3. Fire Spread: Provide systems to limit spread of fire from storage area to office area, which control spread of fire throughout facility.
  4. Smoke Control: Provide a system to evacuate smoke after fire has been extinguished, to evacuate smoke while firefighting is in progress.
  5. Chemical Exposure or Use: Provide systems which limit exposure of occupants to extinguishing agents.
- D. Structural:
1. Seismic Design: Provide support systems which sustain static (dead) loads three times the weight of the system.
- E. Durability:
1. Corrosion Resistance: Use corrosion resistant materials; ferrous metal is not considered corrosion resistant unless it is hot dipped galvanized, chrome plated, or coated with rust inhibitive paint.
  2. Vandalism: Provide systems which are tamper-resistant.
- F. Operation and Maintenance:
1. Ease of Use: Provide easy access to and working clearances around system components.
  2. Unauthorized Use: Provide systems which minimize activation and use by unauthorized persons.
  3. Substantiation:
    - a. Preliminary Design: System layout indicating operator interface locations.
    - b. Design Development: System equipment locations indicated on the drawings and manufacturer's product data indicating products to be used.
    - c. Closeout: Complete Functional Performance Testing.

## PRODUCTS

- A. Use one or more of the following:
1. Wet pipe sprinkler system.

2. Dry pipe sprinkler system.
  3. Standpipe and hose system.
  4. Fire detection and alarm system.
  5. Fire pump and controls. Quantity of two for air freight terminal and quantity of two for outsize cargo facilities.
  6. Deluge sprinkler system.
- B. Do not use:
1. Clean agent system.
  2. Halon system.
  3. Foam system.
  4. Preaction sprinkler system.

**END OF CHAPTER D4**

**CHAPTER D71****VOICE AND DATA****PERFORMANCE****A. Basic Function:**

1. Provide means of conveying voice communication between rooms and spaces in the building and between the building and the base campus area network as follows.
  - a. Point-to-Point Voice Communications For:
    - 1) Private two-way verbal communication.
    - 2) Group conversations among more than 2 stations, at user's option.
    - 3) Both handset and speaker operation, at user's option.
    - 4) Transfer of live call to another station, at user's option.
    - 5) Hands-free paging.
  - b. Recording and Management of Voice Messages:
    - 1) Incoming and internal messages.
    - 2) User-recorded reception message for each station.
    - 3) Automated answering of incoming voice telephone.
  - c. Connection between internal communications and public telephone system.
  - d. Automatic answering of incoming fax, from public telephone network;.
  - e. Point-to-Point Voice Stations: Required in the following spaces:
    - 1) Each interior room, minimum of one.
    - 2) Each entrance.
    - 3) Each stretch of corridor of 50 feet length or less.
  - f. Furnished by Owner:
    - 1) Telephone sets, controller, and switching software.
    - 2) Telephone recording hardware and software.
    - 3) Fax hardware and software.
    - 4) Private automatic branch exchange (PABX).
2. Provide means of conveying data between computers within the building, between buildings in the campus, and between the data transmission network and the Owner's Internet service provider as specified in the program and as follows.
  - a. Owner's operational computer network is PC- based.
  - b. Connection between Internet and internal network will be via ISDN line.
  - c. Connection between the network and the base campus area network shall be provided. Wiring outside the building structures will be provided by the Owner.
  - d. Operational network outlets shall be provided in the following spaces:
    - 1) Server Room, number as indicated in project program.
    - 2) Each interior room, minimum of one.
    - 3) Each reception desk.
    - 4) Each other location indicated as "computer outlet" or "workstation" on project program.
    - 5) Adjacent to each receptacle in every office listed on project program, or at least one outlet for every 48 square feet of office space, whichever is the higher quantity.
  - e. Furnished by Owner:
    - 1) Owner's operational computer network hardware and software, including servers, routers and hubs..
3. Where voice and data elements also must function as elements defined within another element group, meet the requirements of both element groups.
4. In addition to the requirements of this chapter, comply with Unified Facilities Guide Specifications and all applicable requirements of Part III - Facility Performance, Chapter D - Services, Chapter D7 - Telecommunications, and Dover Air Force Base specification section 16740.

5. Substantiation:
  - a. Preliminary Design: Outline description of systems, inter-system interfaces, and functions provided.
  - b. Design Development: Details of each type of input and output device; capacities of systems; manufacturer data.
  - c. Construction Documents: Detailed layout of input and output device locations.
  - d. Closeout: Complete functional performance testing.
- B. Amenity and Comfort:
  1. Accessibility: Comply with requirements of Americans With Disability Act for facilities for the disabled.
- C. Durability:
  1. Moisture Resistance and Thermal Compatibility: Materials that will resist degradation and failure of signals under ambient conditions expected.
- D. Operation and Maintenance:
  1. Owner Personnel Training:
    - a. Operational: Minimum of 16 hours, for 2 persons, for each separate system.
    - b. Maintenance: Minimum of 16 hours, for 2 persons, for each separate system.
  2. Telecommunications System Management Records. Telecommunications system labeling, management records, and drawings must comply with TIA/EIA-606. Existing base standard numbering practices may be used as long as they incorporate the following requirements: all outlets, patch panel positions, and cables must be labeled as to their function with a unique identifier code; and as-built drawings and management records must show the location of all outlets, equipment, and cabling. These records will form part of the base Communications and Information Systems Installation Records (CSIR) and must be delivered to the BCSO CSIR manager upon contract completion according to AFI 33-104, Base Level Planning and Implementation, and AFI 21-404, Developing and Maintaining Communications and Computer Systems Installation Records.
    - a. Outlets and Patch Panel Labeling. As a minimum, outlet and patch panel labeling must show the TC number serving the outlet and the outlet circuit number. The outlet number should reflect its relative physical location in the building. Circuit numbers should not incorporate telephone extension numbers since telephone numbers can be reassigned to different outlets in telephone switching equipment and are therefore subject to frequent change. Where several patch panels are located in a single TC, the numbering and labeling scheme must also show the number of the patch panel serving the outlet. Each individual jack must be labeled to show its function; top or left jack position must be designated for and labeled "PHONE," and bottom or right jack position must be designated for and labeled "DATA." All patch panels terminating copper cable must be stenciled with the panel number, the cable count, and whether terminations are wired to TIA/EIA-568-B termination configuration T568A (default) or T568B (by exception only) wiring standard. Fiber optic ports in patch panels must be labeled to show the transmit "TX" and receive "RX" port for each duplex set of fibers. Lettering on labels must be 0.25 inch high and machine-made; handwritten labels must not be used for permanent installation.
    - b. Distribution System Labeling. All transitions and changes in distribution system size and type must be labeled on the drawings. Each cabinet must be labeled at the top with a unique designation. All cables, patch panels, and cable terminations must be labeled.

## PRODUCTS

- A. Wired LANs
  1. LANs will use switched Ethernet technology meeting the Ethernet and transmission media standards. Client jacks will be Category **6** (CAT **6**)-rated or better Universal Service Order Code

(USOC) registered jack (RJ)-45, wired with CAT 6 or better four-pair unshielded twisted pair (UTP) cable in accordance with TIA/EIA-568-B, Commercial Building Telecommunications Cabling Standard. Terminate all client drops on CAT 6 or better-rated patch panels in telecommunication closets (TCs).

2. Alternative technologies, such as asynchronous transfer mode (ATM)-based networks or wireless LANs, may be used where prior approval of the Owner is obtained. Wireless LANs will not be used as a substitute for a wired LAN infrastructure in new facilities, except where mobility of client computers is essential to operational effectiveness and approved by the Owner.

B. Telephone Systems

1. Single Line (Instrument) Concept (SLC). Telephone systems will implement the SLC and be capable of providing Integrated Services Digital Network (ISDN) services. Key systems will not be installed in new facilities. Terminate all subscriber lines in the new facilities, except point-to-point circuits such as fire alarms, on the facility telephone switch (private automatic branch exchange [PABX], remote switching terminal [RST], or other phone switch). In small buildings where a separate switching system is not justified, extend all switched circuits to the base dial central office switch.

C. Building Wiring Architecture. Building telecommunications (telephone and LAN) distribution systems must meet TIA/EIA-568-B, TIA/EIA-569-A, Commercial Building Standards for Telecommunications Pathways and Spaces, TIA/EIA-606, Administration Standard for the Telecommunications Infrastructure of Commercial Buildings, and TIA/EIA-607, Commercial Building Grounding and Bonding Requirements for Telecommunications. Distribution systems shall be concealed. No exposed wiring will be permitted.

1. Distance Requirements. TIA/EIA-568-B allows a distance of 10-feet from the client outlet to the client end instrument (computer). It allows 295-feet from the client outlet to the TC. The cable length allowed in the closet is 23-feet. Therefore, the total length of a client circuit must be no greater than 328-feet.
2. CER. A facility that has significant communication systems requirements and is greater than 10,000 square feet in area must have a CER. The CER serves as the entrance facility for all incoming communications ducts and service and as the location for communication and information infrastructure such as the building PABX, RST, and LAN switches.
  - a. Details: Provide telephone outlets in the CER for desk mounted or wall mounted telephones as appropriate. The number of entrance telecommunication conduits shall be as follows:
    - 1) Building Usable Area (sq. ft.) <20,000; Number of 4-inch Entrance Conduits - 3
    - 2) Building Usable Area (sq. ft.) 20,000 to 100,000; Number of 4-inch Entrance Conduits - 4
    - 3) Building Usable Area (sq. ft.) 100,000 to 200,000; Number of 4-inch Entrance Conduits - 5
    - 4) Every additional 200,000 sq. ft.; Number of 4-inch Entrance Conduits - +1
  - b. Power Requirements. Provide a minimum of two dedicated un-switched 20-amp, 120-VAC, 60-Hz duplex receptacle power outlets, each on a separate branch circuit for communication equipment. Increase these minimum requirements as necessary to meet equipment loads. Support the equipment with UPS units. Provide additional 120-VAC convenience outlets for maintenance and housekeeping. Back-up all electrical loads in the CER with standby generator power.
  - c. Ground Connections. Ground connections in the CER must meet National Fire Protection Association (NFPA) 70, National Electrical Code (NEC), and TIA/EIA-607 requirements. Provide a single-point ground for all communications/electronics equipment for the building within the CER. Provide a telecommunications main ground busbar (TMGB) (minimum of 6 inches high by 24 inches long) installed 7 feet above the floor on a wall (preferably an outside wall) within the CER. The ground riser from the ground plate to the single main

- electrical service entrance ground must be a No. 1 American Wire Gauge (AWG) or larger copper conductor directly connected to the ground plate with no taps. The resistance of the ground riser must be 5 ohms or less measured from the main building ground point. All connections of wire-to-wire and/or wire-to-ground rod must be exothermic-welded. Extend No. 6 AWG or larger copper ground wires from the CER ground plate to each TC within the building and connect a telecommunications grounding busbar (TGB) in the TC. Bond each TMGB and TGB to non-current-carrying metal building parts, such as metal framing, in the CER and TC as required by the NEC.
- d. Building Entrance Terminals (BET) (Telephone). Provide gas protector modules in the cert to protect the inside plant wiring and equipment from voltage surges. Where the length of the outside plant cable from the point it enters the building to the BET is greater than 50 feet, install the outside plant cable in metal conduit and ground the conduit. Terminate twisted-pair outside plant cable on BETs at the point where it enters the building. Provide cross-connects from the BET to the inside wiring connection point.
3. TCs. Provide a TC for each 10,000 square feet of building area on each floor. The TC supports the functions outlined in TIA/EIA-568-B and serves to house the interface between the CER and client telephone and data outlets. It houses LAN networking equipment (e.g., Ethernet switches and patch panels) for client outlets served from the TC. A TC may serve as the CER for buildings less than 10,000 square feet in area.
    - a. Details. TCs must be dedicated spaces not shared with other functions (i.e., building electrical or mechanical utilities). TCs must be located centrally in the area they serve and sized in accordance with TIA/EIA-569-A. TCs on successive floors must be vertically stacked. A minimum of three 4-inch rigid steel conduits must be installed between stacked closets on successive floors in accordance with TIA/EIA-569-A. All conduit and other penetrations through fire-rated walls, ceilings, and floors must be fire-stopped in accordance with the NEC. As a minimum, the TC should have 0.75-inch plywood backboards on all walls, from no greater than 1 foot above the finished floor level to no less than 7 feet above the finished floor level. Floors, walls, and ceilings must be treated to eliminate dust. Finishes must be light in color to enhance room lighting. Provide an outlet for a wall-mounted telephone installed near the entry door.
    - b. Power Requirements. Provide a minimum of two dedicated un-switched 20- amp, 120-VAC, 60-Hz duplex receptacle power outlets, each on a separate branch circuit for communication equipment. Increase these minimum requirements as necessary to meet equipment loads. Support the equipment with UPS units. Provide additional 120-VAC convenience outlets for maintenance and housekeeping. Backup all electrical loads in the TC with standby generator power.
    - c. Grounding. All TCs must be connected to a single-point ground in the CER in accordance with TIA/EIA-607 (see paragraph 8.3.3.2.4).
  4. Equipment Racks. Equipment racks must be 19 inches wide and mounted on the floor. Locate racks near the point where outside plant cable enters the building in CERs and center of the room in TCs. If mounting requirements for oversize equipment is anticipated, 23-inch wide racks may be substituted. In narrow or crowded closets, equipment racks may be mounted adjacent to a wall, but must provide a minimum of 36-inches of space both in front and behind the rack. Where added physical protection is required for terminations, data equipment, and patching, 19-inch equipment cabinets may be used. Ground all racks and cabinets.
  5. Cable Rack. Channel-type cable rack must be used in TCs and CERs to provide distribution raceway between telephone backboards, equipment racks, riser conduits, and distribution cable trays.
  6. Copper Cable Terminations:
    - a. Copper Distribution Cable Termination. All copper distribution cable (riser cable and subscriber drops) used for telephone or data circuits must be terminated in TCs and the CER on 110-type CAT **6** or better rated termination patch panels mounted in an equipment rack. Terminations must be wired to TIA/EIA-568-B termination configuration T568A.

- Telephone and data cables must not be intermingled; provide separate patch panels for each. On small installations where multiple patch panels are not justified, group telephone cables together and separate them from data cable groupings. Label all cables, patch panels, and terminations consistent with the building or the base overall cable management numbering system as required by the base communications systems officer.
- b. Copper Telephone Patch Cables. Telephone patch cables must be 4-pair No. 24 AWG stranded UTP and have a standard 8-pin/8-position USOC RJ-45 type connector on one end and a termination compatible with the incoming telephone circuit block or panel on the other end. Telephone patch cables shall have the same category rating as data patch cables used in the facility to simplify housekeeping and inventory, and preclude the need to differentiate between two kinds of patch cables.
  - c. Copper Data Patch Cables. Data patch cables must be factory-assembled 4-pair No. 24 AWG stranded CAT **6** or better UTP and have a standard 8-pin/8-position USOC RJ-45 type connector on one end and a termination compatible with the incoming data circuit block or panel on the other end.
7. FOC Termination.
- a. All FOC used for distribution must be terminated in rack-mounted patch panels. Duplex patch cables must be used. Termination of FOC shall be in enclosed 19 or 24-inch cabinets to provide greater protection.
  - b. Fiber optic patch cables must be factory-assembled using single coupling SC-type FOC connectors.
8. Cabling and Wiring:
- a. Horizontal Cable (Telephone and Data). Horizontal cables connect individual subscriber telephone and LAN outlets to their respective 110-type patch panels in the TC. Horizontal cable for both telephone and LAN (data) must be 4-pair No. 24 AWG solid copper, 100 ohm, CAT **6** or better UTP cable. Use only cable that has passed the Underwriters Laboratory (UL) network certification program and is UL-listed and -labeled. Group telephone cables separately from LAN cables.
  - b. Riser Cable (Telephone). Telephone riser cables provide connection between the telephone patch panel in the TCs and the telephone patch panel or main distribution frame in the CER. Telephone riser cable must be multi-pair (sized as required to support all horizontal cables terminated in the TC plus 50% spare pairs) No. 24 AWG solid copper, 100 ohm, CAT 3 UTP cable. They must meet the requirements of TIA/EIA-568-B.
  - c. Riser Cable (LAN). Fiber optic network riser cables provide connectivity between the LAN workgroup-level switches in the TCs and the LAN patch panel in the CER. LAN riser cable must be 12-strand, 62.5/125-micron multi-mode FOC. The cable riser must be terminated in a patch panel with duplex SC-type connectors installed in an equipment rack or cabinet.
  - d. Outside Plant Cable. Telephone outside plant cable provides connection between the telephone main distribution frame or 110-type patch panel in the CER and the point where the facility connects to the base telephone network (typically the dial central office or an RST in another building). Data outside plant cable provides connection between the intra-building LAN main Ethernet switch/router and the point where the facility connects to the base CAN (typically the NCC or an ITN). Outside plant cable connectivity consists of both single-mode FOC (for data) and multipair metallic cables (for telephones). Cables will be provided by the Owner.
9. Standard Telecommunications Outlet. The standard outlet must consist of one 6-pin/6-position telephone jack and one 8-pin/8-position CAT **6** or better modular USOC RJ-45 data jacks mounted in a single faceplate in a factory-made assembly with (or collocated with) two duplex 120-VAC, 60-Hz power receptacles. Telephone and data jacks must be nonkeyed unless the user requires keyed connectors to maintain system uniformity, security, or other user-specified reasons. The power outlet circuits must be based on a loading assumption that each location of two duplex receptacles will power one personal computer with a monitor along with typical office appurtenances such as task lights; also assume that there will be no diversification of this load.

- a. All administrative facilities and administrative spaces in other types of facilities must be equipped with one standard telecommunications outlet for each 48 square feet of net office space. Outlet densities and locations for all special-purpose spaces and non-administrative facilities shall be in accordance with the program and must follow the guidelines in TIA/EIA-569-A.
10. Pay Phone Outlet. Pay phone outlets must consist of one 8-pin/8-position CAT 3 or better modular USOC RJ-45 non-keyed jack in a single gang outlet faceplate. Locate pay phone outlets in common-use areas where illustrated in the program.
11. Furniture Systems Support Wiring. Telephone and data wiring systems in areas with pre-wired workstations, furniture systems, or modular walls must have sufficient flexibility and connectivity to enable rearrangement without modifications to the permanent communications and data wiring in the facility. Suitable connectors must be provided; permanent splices/connections are prohibited.
12. Conduits: Unless supported on cable racks, install all voice and data wirings in rigid conduit with plastic junction boxes. Contractor shall comply with NFPA70, Art, 314.3.

#### **METHODS OF CONSTRUCTION**

- A. Testing: All metallic and fiber optic cabling must be tested end-to-end and certified to meet TIA/EIA performance standards. All equipment must be tested to meet contract specifications. All test results and certifications must be provided in a report upon completion of construction to the BCSO responsible for system O&M.

**END OF CHAPTER D71**

If required, a pump house shall be provided to boost water pressure and flow to meet NFPA requirements. If required, the location of the pump house shall be approved by the COTR. The pump shall have a minimum pressure of 150 pounds per square inch. The water supply and all piping to the ETV-PSE shall be underground except where exposed in the pump house. Shut off valves, test valves, pressure gauges, flow gauges, recorders, and similar devices shall be provided as required by NFPA and for maintenance and testing. The pump controller shall be an automatic type designed for fire pump service. The controller shall have auto start, auto stop, and push-button stop operating modes. The fire pump, controller, and all associated hardware and equipment shall be approved by the COTR.

### 3.11 PERSONNEL PATHWAYS

#### 3.11.1 CONTINUOUS WALKWAYS

Continuous walkways shall be provided on all levels between the fixed pallet stops on the storage conveyors and the edge of the ETV-PSE in accordance with Figure 1 of the Cover PD. If applicable, walkways shall also be provided on all levels between columns when there is no conveyor between the columns but there are conveyors on the other side of the columns. The continuous walkways, including decking and fall protection, shall conform to the Cover PD (Platforms and Walkways). Continuous walkways shall be minimum 48 36 inches wide at the narrowest point. The continuous walkways, including handrails, shall interface with the personnel doors to the air freight terminal and to the staging dock conveyor platforms to maintain a continuous walking surface.

#### 3.11.2 PERSONNEL TRAVEL BETWEEN LEVELS

##### 3.11.2.1 STAIR-LADDERS

Four stair-ladders shall be provided between levels in the locations shown on Figure1 of the Cover PD to allow personnel to travel between levels. The stair-ladders shall conform to Figure 1 of the Cover PD. The tread surface shall be open grating or other non-skid surface providing high traction even when wet. The treads shall deflect less than 0.12 inch under a 250-pound load. Handrails shall be provided 35 inches +/- 2 inches above the leading edge of the tread. Handrails shall be minimum 1.25 inches in diameter. The stair-ladders shall be removable to allow forklift access for ETV maintenance.

##### 3.11.2.2 LOWER LEVEL STAIR-LADDER WALKWAY

A walkway connecting the lower level continuous walkway to the stair-ladders shall be provided as shown on Figure 1 of the Cover PD. This walkway shall be considered an extension of the continuous walkway and shall meet all requirements listed in 3.11.1 for continuous walkways. In addition, the lower level stair-ladder walkway shall be removable to allow forklift access to the ETV for maintenance. This walkway shall be in sections, each weighing less than 70 pounds, or shall be designed to be removed and replaced by forklifts. The sections shall be removed and reattached to the continuous